

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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08/916,629 08/22/97 COBBLEY

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EXAMINER

STEPHEN A GRATTON
2764 SOUTH BRAUN WAY
LAKEWOOD CO 80228

GALLAGHER, J

ART UNIT

PAPER NUMBER

1733

14

DATE MAILED: 12/14/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks**BEST AVAILABLE COPY**

Office Action Summary

Application No.
08/9,662-9

Applicant(s)

Examiner

Group Art Unit

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- Responsive to communication(s) filed on _____.
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- Claim(s) 1-22 and 40-44 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- Claim(s) _____ is/are allowed.
- Claim(s) 1-22 and 40-44 is/are rejected.
- Claim(s) _____ is/are objected to.
- Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on _____ is approved disapproved.
- The drawing(s) filed on _____ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - All
 - Some*
 - None of the CERTIFIED copies of the priority documents have been:
 - received.
 - received in Application No. (Series Code/Serial Number) _____.
 - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- Interview Summary, PTO-413
- Notice of Reference(s) Cited, PTO-892
- Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Other _____

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Office Action Summary

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1. Applicants Preliminary Amendment, filed 25 September 2000, has been referred and made of record.

2. Claims 2, 7 and 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, change the word "a" to "the" in line 2 of each of claims 2, 7 and 4 and in line 7 of claim 15.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiLEO et al in view of either NISHINO et al or LITKE.

DiLeo et al disclose that it is known to bond/adhere semiconductor chip/element/device to a leadframe utilizing a room temperature curable (epoxy) adhesive, which (a) element and leadframe are also electrically (inter)connected by conductor/wire bonding; and (b) bonded composite is resin encapsulated (as is conventional) (Figures 2-4, abstract, col. 1, lines 7-11 and N.B. lines 28-29, col. 2, lines 1-14 and 38-56, col. 3, lines 3-37 and N.B. lines 34-37, N.B. col. 3 lines 51-56, N.B. col. 4 lines 1-2 and 9-11).

NISHINO et al (abstract, col. 1 lines 8-14, col. 2 lines 60 thru col. 3 line 29) and LITKE (abstract, col. 1 lines 11-34, col. 3 lines 18-22 and 50-54) both disclose that it is known to

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incorporate a silica filler in a cyanoacrylate adhesive for various (and beneficial) effects (e.g. thixotropy), such that it would have been obvious to one of ordinary skill in this art to employ such filled adhesives in the bonding process of DiLeo et al in place of the corresponding, analogous adhesive employed therein, mere substitution of one known room temperature curing adhesive for another involved. The former/first named patentees also further disclose that cyanoacrylate monomers (a) are widely/generally used as instantaneous adhesives for a variety of substrates (e.g. metals, glasses etc.) and also in the bonding of electrical and electronic parts; (b) cure in a short period of time at room temperature (i.e. without heat); and (c) are initiated to polymerize by water or basic substances either present or (i.e. as/from humidity) or applied to the substrate surfaces to be bonded.

5. Claims 1-20 are further rejected under 35 U.S.C. 103(a) as being unpatentable over DiLeo ^{et al} in view of MIKUNI et al and further in view of either NISHINO et al or LITKE.

MIKUNI et al disclose most similar to NISHINO et al (as set forth above) with respect to everything EXCEPT the presence of a filler component. (N.B. col. 1 lines 9-16 and 29-30). It would have been obvious to one of ordinary skill in this art to employ/incorporate the silica filler of either Nishino et al or Litke in the adhesive of Mikuni et al for use in the process of DiLeo et al; mere incorporation of a known (and beneficial) material/ingredient in a known adhesive involved.

6. The foregoing art rejections of paragraphs 4-5 are repeated, with the addition of O'Sullivan et al as a secondary reference to the statement of each.

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O'Sullivan et al disclose that cyanoacrylate adhesives (i.e. of the type shown in Mikuni et al, Nishino et al and Litke) are known to cure in less than a/one minute and in many cases in a matter of seconds (N.B. col. 1, lines 25-44). This reference is applied specifically and primarily for the sake of exposition and completeness, its teaching along the foregoing line being held/seen to be implicitly encompassed within that of the other three references referred to above.

7. Claims 21-22 and 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiLEO et al in view of BURNETT et al and GRUBER et al.

Burnett et al disclose that an aerobic curing acrylate/acrylic monomers are known to (a) polymerize rapidly at room temperature (i.e. without heat); and (b) find utility as adhesives in the bonding of various (e.g. electrical) substrates (N.B. col. 1, lines 38-42, col. 3, lines 47-58, col. 5 lines 4-26, col. 18, lines 34-38, col. 19, lines 15-24 and 54-75, col. 20, lines 1-16).

Gruber et al disclose that it is known to incorporate an (e.g. silica) filler in an acrylate based anaerobic adhesive (col. 1, lines 7-15, N.B. col. 4, lines 15-22), such that it would have been obvious to one of ordinary skill in the art to incorporate such a conventional, documented ingredient/component in the adhesive of Burnett et al for use in the bonding process of DiLeo et al in place of the corresponding, analogous adhesive employed therein; mere substitution of one known room temperature curable adhesive for another involved.

8. Applicants should note that all of the above applied references are already of record.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Gallagher whose telephone number is (703) 308-1971. The examiner can

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normally be reached on M-F from approximately 8:30 A.M. to 5: P.M. The examiner can also be reached on alternate N/A.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL BALL, can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661/0662.

J. Gallagher/vr
12-13-00 (P.M.)

12-13-00



JOHN J. GALLAGHER
PRIMARY EXAMINER
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